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John Albert Toebes

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EXAMINER

PARK, JUNG H

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/061,553

Applicant(s)

TOEBES ET AL.

Examiner

Jung Park

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 and 38 is/are rejected.
- 7) ☒ Claim(s) 36 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6, 11-14, 16, 21-24, 26, 31, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigezumi et al. (US 7,013,343, "Shigezumi").

Regarding claims 1, 21, and 31, Shigezumi discloses the step of:

- formatting an IP packet (an IP packet using TCP/IP, see col.1, ln.33-42) to include a header (IP header including IP address, see col.1, ln.41) comprising a globally significant IP address (nec.co.jp in IP format, see col.1, ln.42-55) identifying a realm (nec.co.jp, i.e., NEC company, see col.1, ln.42-55) and a locally significant IP address (www.nec.co.jp, see col.1, ln.42-55) identifying a destination of the IP packet within the realm (an IP address corresponding to www.nec.co.jp, see col.1, ln.52-55);
- selecting one of the globally significant IP address and the locally significant IP address for use in forwarding the packet based on a location within the network (selecting www.nec.co.jp, see col.1, ln.42-55); and
- transmitting the IP packet (col.1, ln.11-55 where a user accesses www.nec.co.jp by transmitting) using the selected address from the packet (note:www.nec.co.jp); wherein the globally significant IP address (note: nec.co.jp) and the locally significant IP address (note: www.nec.co.jp) are both configured to use in forwarding the packet (both are used, see col.1, ln.50-55) without address translation (col.1, ln.11-55 where only DNS is

used for converting host names and domain names into IP addresses on the Internet or on local networks without using of network address translation, NAT. That is, it is not required to use NAT when there are enough IP addresses for hosts in the internal network).

Shigezumi does not explicitly disclose the steps of formatting an IP packet and transmitting the IP packet, however, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to generate/transmit an IP packet when a user accesses www.nec.co.jp server (col.1, ln.11-55) with an motivation of standard compliance.

Regarding claim 11, Shigezumi discloses all the claim limitations as rejected in claim 1, except the limitation of a computer-readable medium. However, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to use software-based machines. The benefit using computer-readable medium is that program can be changed and upgraded and new features are added easily than hardware changes.

Regarding claims 2, 12, and 22, Shigezumi further discloses, "resolving the globally significant IP address from a first component of a globally significant name (a DNS server for managing nec.co.jp, see col.1, ln.51); and resolving the locally significant IP address from a second component of a locally significant name (a DNS server for managing www.nec.co.jp, see col.1, 50-55)."

Regarding claims 3, 13, and 23, Shigezumi further discloses, "resolving the globally significant IP address comprises contacting a global DNS server (a DNS server for nec.co.jp, see col.1, ln.51)."

Regarding claims 4, 14, and 24, Shigezumi further discloses, "resolving the globally significant IP address comprises contacting a local DNS server (col.1, ln.33-55)."

Regarding claims 6, 16, and 26, Shigezumi teaches, "the globally significant IP address belongs to a range specified for realms (col.1, ln.33-55 where domain network address such as nec.co.jp)."

Regarding claim 33, Shigezumi further discloses, "the client node comprises a globally unique IP address (nec.co.jp, see col.1, ln.51-55)."

Regarding claim 34, Shigezumi further discloses, "the globally unique IP address comprises a concatenation of a globally significant IP address of the client node's realm (www.nec.co.jp, see col.1, ln.52-55)."

Regarding claim 35, Shigezumi further discloses, "the header comprises an encapsulation IP header (IP header including IP address of nec.co.jp, see col.1, ln.51-55) and an inner IP header (IP header including IP address of www.nec.co.jp, see col.1, ln.52-55)."

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3. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shigezumi in view of Luciani.

Regarding claim 38, Shigezumi lacks what Luciani discloses, "transmitting the IP packet comprises utilizing only the globally significant IP address in selecting a next hop node (col.1, ln.65-67)." Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to apply the method of searching a next hop using a network address disclosed by Luciani into the network of Shigezumi since one would be motivated to use network address to find next hop router in the neighbor network properly.

4. Claims 5, 15, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigezumi in view of MeLampy et al. (US 2002/0169887, "MeLampy");

Regarding claims 5, 15, and 25, Shigezumi lacks what MeLampy teaches, "resolving the globally significant IP address comprises contacting an SIP server (122, 124, 126 & 128 fig.1; para.[0065])." Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the SIP server taught by MeLampy with the system disclosed by Shigezumi since one would be motivated to include the SIP server in order to provide VoIP service to clients by setting up sessions between one or more VoIP clients.

5. Claims 7-9, 17-19, 27-29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciani et al. (US 6,418,476, "Luciani").

Regarding claims 7, 27, and 32, Luciani discloses a method of operating a gateway node to handle a received packet, the method comprising:

- extracting a globally significant destination address from a destination address field of the packet (col.3, ln.14-18 where ...receiving and reading the globally unique destination IP address is equivalent to extracting a globally significant destination address from the field); and
- if the globally significant destination address identifies a realm directly attached to the gateway node (a border router, see col.3, ln.14-18), extracting a locally significant destination address from the packet (a local IP address, see col.3, ln.14-18), placing the locally significant destination address field (translating, see col.3, ln.14-18), and forwarding the packet to a local destination within the realm (forwarding the IP packet to a host in the domain B, see col.3, ln.14-18).

Luciani does not explicitly disclose, "wherein the globally significant destination address and the locally significant destination address are both contained within the packet so that the packet is forwarded to the local destination without using network address translation."

However, ordinary people in the art know that NAT is an IETF standard that allows an organization to present itself to the Internet with far fewer IP addresses than there are nodes on its internal network. That is, when there are enough IP addresses for hosts in the internal network it is not necessary to use network address translation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to forward IP packets including network address and host address in IP header to local destination when there are enough IP addresses in the internal network without using network address translation.

Regarding claim 17, Luciani discloses all the claim limitations as rejected in claim 7, except the limitation of a computer-readable medium. However, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to use software-based machines. The benefit using computer-readable medium is that program can be changed and upgraded and new features are added easily than hardware changes.

Regarding claims 8, 18, and 28, Luciani further discloses, "if the globally significant destination address does not identify a realm directly attached to the gateway node, forwarding the packet to a next hop based on the globally significant address (a next hop router, see col.1, ln.59-67)."

Regarding claims 9, 19, and 29, Luciani further discloses, "advertising a realm reachable through the gateway node (col.2, ln.3-9)."

6. Claims 10, 20, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciani in view of MeLampy.

Regarding claims 10, 20, and 30, although Luciani teaches an interior gateway protocol message identifying networks reachable through the gateway node (col.2, ln.3-9), Luciani is silent on the border gateway protocol message. However, MeLampy teaches the border gateway protocol for other realms (para.[0055] ...BGP-4 routers...)."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the BGP router disclosed by MeLampy with the system of Luciani since one would be motivated to include the BGP router in a realm

(AS: autonomous system) in order to properly route packets to other realms with the router as designed.

Allowable Subject Matter

7. Claims 36 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed on 07/16/2007 with respect to the amended claims 1, 7, 11, 21, and 31 have been considered, but they are not persuasive.

At pages 10-11, with respect to 1, 11, 21, and 31, applicant argues that "there is no teaching of formatting an IP packet to include a header comprising two addresses: a globally significant IP address identifying a realm and a locally significant IP address identifying a destination within the realm."

In reply, Shigezumi disclose that an IP packet is formatted using TCP/IP as shown in col.1, ln.33-42. The IP packet comprises a network address, that is, nec.co.jp in IP formation is equivalent to a globally significant IP address identifying NEC company (see col.1, ln.42-55) and www.nec.co.jp is equivalent to a locally significant IP address identifying a destination of the IP packet within the NEC company realm. The examiner notes that one of ordinary skill in the art knows that IP address comprises a host address, which is equivalent to locally significant address, and network address, which is equivalent to globally significant address. There is no significant difference between the format of standard IPv4 and the format of IP packet recited in the claim.

Further, applicant argues that “since there is no selection of an address based on a location within the network or transmission of the packet using a selected address.”

In reply, www.nec.co.jp, which is equivalent to the locally significant IP address, is selected based on a location within the NEC company’s network address.

Further, applicant argues that “there is nothing disclosed in Shigezumi that would eliminate the need for address translation.”

In reply, Shigezumi discloses that only DNS is used for converting host names and domain names into IP addresses on the Internet or on local networks without using of network address translation, NAT. That is, it is not required to use NAT when there are enough IP addresses for hosts in the internal network. Therefore, the examiner respectively disagrees.

At page 11, with respect to 7, applicant argues that Luciani fails to disclose, “the globally significant destination address and the locally significant destination address are both contained within the packet so that the packet is forwarded to the local destination without using network address translation.”

In reply, ordinary people in the art know that NAT is an IETF standard that allows an organization to present itself to the Internet with far fewer IP addresses than there are nodes on its internal network. That is, when there are enough IP addresses for hosts in the internal network it is not necessary to use network address translation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant’s invention to forward IP packets including network address and host address in IP header

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to local destination when there are enough IP addresses in the internal network without using network address translation in order to remove unnecessary step for system efficiency. Therefore, the examiner respectfully disagrees.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung Park whose telephone number is 571-272-8565. The examiner can normally be reached on Mon-Fri during 6:15-3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP

Jung Park
Patent Examiner

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SUPERVISORY PATENT EXAMINER

Eden Orgad 9/31/07